

IN THE CLAIMS:

Please **CANCEL** claim 15 without prejudice or disclaimer.

Please **AMEND** claims 1-14 as follows.

1. (Currently Amended) A ~~transmission method~~, comprising:

constructing layered channel symbols as linear combinations of complex modulation symbols;~~and~~

transmitting the layered channel symbols via at least two transmit paths;

using, when constructing the layered channel symbols, at least a first non-zero coefficient and a second non-zero coefficient in at least one layer when performing a linear combination, wherein ~~the~~ a ratio of the first coefficient and the second coefficient is not a real number;~~and~~

using, for at least one modulation symbol, a first non-zero total power for transmission on a first transmit path of the at least two transmit paths, and a second non-zero total power for transmission on a second transmit path of the at least two transmit paths; and

using, for at least another modulation symbol, the first non-zero total power for transmission on the second transmit path of the at least two transmit paths, and the second non-zero total power for transmission on the first transmit path of the at least two transmit paths,

wherein the first and second non-zero total powers are not equal.

2. (Currently Amended) A ~~data transmission~~ method of claim 1, further comprising:

using at least one complex precoder matrix ~~that comprises~~comprising at least two non-zero elements ~~that have~~comprising different transmission powers.

3. (Currently Amended) A ~~data transmission~~ method of claim 1, further comprising:

using at least one real precoder matrix,

wherein a transmission power ratio between the layered channel symbols transmitted at different times within a layer is at least 2/8.

4. (Currently Amended) A ~~data transmission~~ method of claim 1, further comprising:

transmitting the layered channel symbols via the at least two transmit paths at different times,

wherein the layered channel symbols transmitted using different transmit paths and different times form equidistant quadrature amplitude modulation constellations.

5. (Currently Amended) A ~~data transmission~~ method of claim 1, further comprising:

transmitting the layered channel symbols via the at least two transmit paths at different times,

wherein the layered channel symbols transmitted using different transmit paths and different times form a lattice.

6. (Currently Amended) A ~~data transmission~~ method of claim 5, wherein the lattice is equidistant.

7. (Currently Amended) An apparatus, ~~transmitter~~ comprising:
antenna means for ~~achieving~~ producing two transmit paths for transmission of a signal;

means for modulating the signal to be transmitted into complex modulation symbols; and

means for constructing layered channel symbols as linear combinations of the complex modulation symbols, ~~[[;]]~~ wherein the means for constructing the layered channel symbols comprises means for constructing the layered channel symbols by using at least a first non-zero coefficient and a second non-zero coefficient in at least one layer when performing the linear combinations, wherein the ratio of the first and second non-zero coefficients is not a real number; and

means for transmitting the layered channel symbols by using, for at least one modulation symbol, a first non-zero total power for transmission on a first transmit path,

and a second non-zero total power for transmission on a second transmit path, and for at least another modulation symbol, the first non-zero total power for transmission on the second transmit path, and the second non-zero total power for transmission on the first transmit path,

wherein the first and second non-zero total powers are not equal.

8. (Currently Amended) An apparatus-transmitter, comprising:

an antenna ~~system for achieving~~ configured to produce two transmit paths for transmission of a signal;

a first modulator ~~for modulating~~ configured to modulate the signal to be transmitted into complex modulation symbols; and

a second modulator ~~for constructing~~ configured to construct layered channel symbols as linear combinations of the complex modulation symbols,

wherein the second modulator is further configured to construct the layered channel symbols by using at least a first non-zero coefficient and a second non-zero coefficient in at least one layer when performing the linear combination, wherein the ratio of the first and second non-zero coefficients is not a real number; and

wherein the second modulator and the antenna ~~system~~ are further configured to transmit the layered channel symbols by using, for at least one modulation symbol, a first non-zero total power for transmission on a first transmit path, and a second non-zero total power for transmission on a second transmit path, and for at least another modulation

symbol, the first non-zero total power for transmission on the second transmit path, and the second non-zero total power for transmission on the first transmit path,

wherein the first and second non-zero total powers are not equal.

9. (Currently Amended) The ~~transmitter apparatus~~ of claim 7, wherein the ~~transmitter comprises means for transmitting~~ comprises means for transmitting the layered channel symbols by using at least one complex precoder matrix ~~that comprises comprising~~ at least two non-zero elements ~~that have comprising~~ different transmission powers.

10. (Currently Amended) The ~~transmitter apparatus~~ of claim 7, wherein the ~~transmitter means for transmitting~~ comprises means for transmitting the layered channel symbols by using at least one real precoder matrix, and wherein a transmission power ratio between the layered channel symbols transmitted at different times within a layer is at least 2/8.

11. (Currently Amended) An apparatus, comprising: ~~base station transmitter of a cellular radio system, comprising:~~

an antenna ~~system for achieving~~ configured to produce two transmit paths for transmission of a signal;

a first modulator ~~for modulating~~configured to modulate the signal to be transmitted into complex modulation symbols; and

a second modulator ~~for constructing~~configured to construct layered channel symbols as linear combinations of the complex modulation symbols,

wherein the second modulator is further configured to construct the layered channel symbols by using at least a first non-zero coefficient and a second non-zero coefficient in at least one layer when performing the linear combinations, wherein the ratio of the first and second non-zero coefficients is not a real number, and

wherein the second modulator and the antenna ~~system~~ are further configured to transmit the layered channel symbols by using, for at least one modulation symbol, a first non-zero total power for transmission on a first transmit path, and a second non-zero total power for transmission on a second transmit path, and for at least another modulation symbol, the first non-zero total power for transmission on the second transmit path, and the second non-zero total power for transmission on the first transmit path,

wherein the first and second non-zero total powers are not equal.

12. (Currently Amended) ~~Terminal equipment of a cellular radio system~~A system, comprising:

an antenna ~~system for achieving~~configured to produce two transmit paths for transmission of a signal;

a first modulator ~~for modulating~~configured to modulate the signal to be transmitted into complex modulation symbols; and

a second modulator ~~for constructing~~configured to construct layered channel symbols as linear combinations of the complex modulation symbols,

wherein the second modulator is further configured to construct the layered channel symbols by using at least a first non-zero coefficient and a second non-zero coefficient in at least one layer when performing the linear combination, wherein the ratio of the first and second non-zero coefficients is not a real number, and

wherein the second modulator and the antenna ~~system~~ are further configured to transmit the layered channel symbols by using, for at least one modulation symbol, a first non-zero total power for transmission on a first transmit path, and a second non-zero total power for transmission on a second transmit path, and for at least another modulation symbol, the first non-zero total power for transmission on the second transmit path, and the second non-zero total power for transmission on the first transmit path,

wherein the first and second non-zero total powers are not equal.

13. (Currently Amended) The ~~transmitter apparatus~~ of claim 8, wherein the transmitter is further configured to transmit the layered channel symbols by using at least one complex precoder matrix ~~that comprises~~comprising at least two non-zero elements ~~that have~~comprising different transmission powers.

14. (Currently Amended) The ~~transmitter apparatus~~ of claim 8, wherein the transmitter is further configured to transmit the layered channel symbols by using at least one real precoder matrix, and wherein a transmission power ratio between layered channel symbols transmitted at different times within a layer is at least 2/8.

15. (Cancelled)